ELSEVIER

Environmental Pollution 124 (2003) I–III

ENVIRONMENTAL POLLUTION

www.elsevier.com/locate/envpol

Contents of Volume 124

Number 1 2003

1 Lipid solubility of the platinum group metals Pt, Pd and Rh in dependence on the presence of complexing agents
S. ZIMMERMANN, C.M. MENZEL, D. STÜBEN, H. TARASCHEWSKI, B. SURES (Germany)
All complexing agents had a significant influence on octanol solubility of PGM.

7 Butyltin compounds in sediment and molluscs from the shipping strait between Denmark and Sweden
J. STRAND, J.A. JACOBSEN, B. PEDERSEN (Denmark), A. GRANMO (Sweden)
The deposit feeding bivalve Nuculana pernula *is a suitable for monitoring bioavailability of TBT in sediment along a major shipping route.*

17 Environmental impact and recovery at two dumping sites for dredged material in the North Sea
J. STRONKHORST, F. ARIESE, B. VAN HATTUM, J.F. POSTMA, M. DE KLUIJVER, P.J. DEN BESTEN, M.J.N. BERGMAN, R. DAAN, A.J. MURK, A.D. VETHAAK (The Netherlands)
Marine benthic resources near dumping sites are adversely affected by physical disturbances, but a causal link to contaminant damage could not be found.

33 Persistence, mobility, efficacy and activity of chloroacetanilide herbicide formulation under greenhouse and field experiments
Y. EL-NAHHAL (Palestine)
Greenhouse and field studies allow advice to be given #6;about improving application procedures and for a herbicide.

39 Distribution and speciation of mercury in the peat bog of Xiaoxingan Mountain, northeastern China
R. LIU, Q. WANG, X. LU, F. FANG, Y. WANG (China)
Peat bogs in northeastern China contain high levels of mercury from atmospheric deposition.

47 Distribution and fate of metals in the dispersion plume of a major municipal effluent
C. GAGNON, I. SAULNIER (Canada)
Partitioning of dissolved and particulate metals varies along a dispersion plume and could influence toxicity to aquatic biota.

57 Detecting river pollution using fluorescence spectrophotometry: case studies from the Ouseburn, NE England
A. BAKER, R. INVERARITY, M. CHARLTON, S. RICHMOND (UK)
Fluorescence spectrophotometry can be used to detect sewage pollution in an urban river.

71 Role of organic acids in enhancing the desorption and uptake of weathered *p,p′*-DDE by *Cucurbita pepo*
J.C. WHITE, M.J.I. MATTINA, W.-Y. LEE, B.D. EITZER, W. IANNUCCI-BERGER (USA)
The addition of low molecular weight organic acids to soil may enhance phytoremediation of persistent organic pollutants.

81 Mineralization of phenanthrene and fluoranthene in yardwaste compost
C.J. CARLSTROM, O.H. TUOVINEN (USA)
PAH biomineralization measurements of yardwaste compost samples indicated heterogeneous distribution of active microorganisms and substantial sequestration of the non-polar substrate in the compost matrix.

93 Antimony bioavailability in mine soils
H.C. FLYNN, A.A. MEHARG, P.K. BOWYER, G.I. PATON (UK)
Antimony has low bioavailability in mining and smelting contaminated soils and bacterial biosensors are not suitable for its detection.

101 Validation of leaf ozone symptoms in natural vegetation using microscopical methods
P. VOLLENWEIDER, M. OTTIGER, M.S GÜNTHARDT-GOERG (Switzerland)
Integration of markers of oxidative stress, from the subcellular to the leaf and needle level, proved to be a useful tool for the differential diagnosis and validation of ozone injury.

119 Parameterization and evaluation of sulfate adsorption in a dynamic soil chemistry model
L. MARTINSON, M. ALVETEG, P. WARFVINGE (Sweden)
Including sulfate adsorption improves the dynamic behavior of the SAFE model.

127 Effects of deicing salt on the vitality and health of two spruce species, *Picea abies* Karst., and *Picea glehnii* Masters planted along roadsides in northern Japan
M. KAYAMA, A.M. QUORESHI, S. KITAOKA, Y. KITAHASHI, Y. SAKAMOTO, Y. MARUYAMA, M. KITAO, T. KOIKE (Japan)
Innate physiological characters of conifers may increase uptake of sodium and chloride and result in enhanced tree injury.

139 In vitro and in vivo studies of lead immobilization by synthetic hydroxyapatite
N. ARNICH, M.-C. LANHERS, F. LAURENSOT, R. PODOR, A. MONTIEL, D. BURNEL (France)
Lead immobilization by solid hydroxyapatite significantly reduces lead concentration and bioavailability in water.

PII: S0269-7491(03)00160-X

151 Sulphur in the Arctic environment (3): environmental impact
G. KASHULINA, C. REIMANN (Norway), D. BANKS (UK)
The whole spectrum of emitted elements need to be studied in order to understand the effects of humans on the environment.

173 A multi-variate statistical model integrating passive sampler and meteorology data to predict the frequency distributions of hourly ambient ozone (O_3) concentrations
S. KRUPA (USA), M. NOSAL (Canada), J.A. FERDINAND, R.E. STEVENSON, J.M. SKELLY (USA)
A statistical approach is described coupling passive ozone (O_3) sampler data with climatological variables to mimic the frequency distributions of hourly ambient O_3 concentrations obtained by continuous monitoring.

Number 2 2003

Review

179 Effects of atmospheric ammonia (NH_3) on terrestrial vegetation: a review
S.V. KRUPA (USA)
A review of atmospheric ammonia (NH_3) and ammonium (NH_4^+) deposition and their effects on plants.

Research papers

223 Arsenic species and leachability in the fronds of the hyperaccumulator Chinese brake (*Pteris vittata* L.)
C. TU, L.Q. MA, W. ZHANG, Y. CAI, W.G. HARRIS (USA)
Arsenic was predominantly present as inorganic arsenite in the fronds of the hyperaccumulator Chinese brake.

231 Modeling coupled interactions of carbon, water, and ozone exchange between terrestrial ecosystems and the atmosphere. I: Model description
N. NIKOLOV, K.F. ZELLER (USA)
A new biophysical model (FORFLUX) is presented to link ozone deposition with carbon and water cycles in terrestrial ecosystems.

247 Spatial distribution of heavy metals in urban soils of Naples city (Italy)
M. IMPERATO, P. ADAMO, D. NAIMO, M. ARIENZO, D. STANZIONE, P. VIOLANTE (Italy)
Cu, Cr, Pb and Zn in the surface and sub-surface soils of the Naples city urban area have been studied and compared with historical data.

257 Hormesis and stage specific toxicity induced by cadmium in an insect model, the queen blowfly, *Phormia regina* Meig.
M.A. NASCARELLA, J.G. STOFFOLANO JR., E.J. STANEK III, PT. KOSTECKI, E.J. CALABRESE (USA)
This is the first report of a heavy metal displaying a hormetic-like biphasic response for early developmental success, while at the same time displaying stage-specific toxicity at a later developmental stage.

263 Trace elements in two odontocete species (*Kogia breviceps* and *Globicephala macrorhynchus*) stranded in New Caledonia (South Pacific)
P. BUSTAMANTE (France), C. GARRIGUE (New Caledonia), L. BREAU, F. CAURANT, W. DABIN (France), J. GREAVES, R. DODEMONT (New Caledonia)
Trace elements in whales on New Caledonia beaches are below levels for concern.

273 Long-term trends in sodium and chloride in the Mohawk River, New York: the effect of fifty years of road-salt application
K.S. GODWIN, S.D. HAFNER, M.F. BUFF (USA)
Sodium and chloride have increased in the last 50 years in this river ecosystem.

283 The characterisation of polycyclic aromatic hydrocarbons emissions from burning of different firewood species in Australia
L.Y. ZOU (Australia), W. ZHANG (China), S. ATKISTON (Australia)
Emission levels for PAHs varied with the type of wood burned.

291 Study of fractionation and potential mobility of metal in sludge from pyrite mining and affected river sediments: changes in mobility over time and use of artificial ageing as a tool in environmental impact assessment
J. LACAL, Mª PILAR DA SILVA, R. GARCÍA, M.T. SEVILLA, J.R. PROCOPIO, L. HERNÁNDEZ (Spain)
Despite cleaning efforts, metals remain above background levels in the Guadiamar River.

307 Physiological and foliar injury responses of *Prunus serotina*, *Fraxinus americana*, and *Acer rubrum* seedlings to varying soil moisture and ozone
M. SCHAUB, J.M. SKELLY, K.C. STEINER, D.D. DAVIS, S.P. PENNYPACKER, J. ZHANG, J.A. FERDINAND, J.E. SAVAGE, R.E. STEVENSON (USA)
High soil water availability favors ozone uptake, increases foliar injury, and exacerbates the negative ozone effect on gas exchange of seedlings of deciduous tree species.

321 Oak leaves as accumulators of airborne elements in an area with geochemical and geothermal anomalies
R. BARGAGLI, F. MONACI, C. AGNORELLI (Italy)
Leaves of Quercus pubescens were less affected by adsorbed soil particles than were mosses and lichens.

331 Influence of arsenic co-contamination on DDT breakdown and microbial activity
L. VAN ZWIETEN, M.R. AYRES, S.G. MORRIS (Australia)
Co-occurrence of arsenic and DDT in soil may result increased persistence of DDT.

341 Effects of VOCs on herbaceous plants in an open-top chamber experiment
J.N. CAPE, I.D. LEITH, J. BINNIE, J. CONTENT, M. DONKIN, M. SKEWES, D.N. PRICE, A.R. BROWN, A.D. SHARPE (UK)
Birdsfoot trefoil and broad-leaved dock were affected by VOCs.

Erratum

355 Erratum

Number 3 2003

New Initiatives

357 Study of mercury pollution near a thermometer factory using lichens and mosses
M.V. BALARAMA KRISHNA, D. KARUNASAGAR, J. ARUNACHALAM (India)
Lichens and mosses were effective as biomonitors of mercury.

Review

361 Interactions between earthworms and arsenic in the soil environment: a review
C.J. LANGDON, T.G. PIEARCE, A.A. MEHARG, K.T. SEMPLE (UK)
Relationships between earthworms and As-rich soils are discussed, examining mechanisms of tolerance, soil factors and possible trophic transfers.

Research Papers

375 Concurrent plant uptake of heavy metals and persistent organic pollutants from soil
M.I. MATTINA, W. LANNUCCI-BERGER, C. MUSANTE, J.C. WHITE (USA)
Heavy metals and organic pollutants aged in soil are both taken up by some plants, suggesting the possibility of phytoremediating two different contaminant types simultaneously.

379 Deposition to forests in Europe: most important factors influencing dry deposition and models used for generalisation
J.W. ERISMAN, G. DRAAIJERS (The Netherlands)
The influence of forest characteristics on deposition can be modelled reasonably well; forest edge effects and dynamical processes are still uncertain.

389 The annual course of TCA formation in the lower troposphere: a modeling study
G. FOLBERTH, G. PFISTER, D. BAUMGARTNER, E. PUTZ (Austria), L. WEISSFLOG (Germany), N.P. ELANSKY (Russia)
The Caspian Catchment Area is affected by many pollutants and prevailing climate conditions.

407 Cu, Cr and As distribution in soils adjacent to pressure-treated decks, fences and poles
T. CHIRENJE, L.Q. MA, C. CLARK, M. REEVES (USA)
Concentrations of As, Cr and Cu decreased with depth in areas close to CCA-treated poles.

419 The response of some common Egyptian plants to ozone and their use as biomonitors
A.A. EL-KHATIB (Egypt)
Growth and physiological response of plants was shown to be an effective tool for O_3-biomonitoring.

429 Variation of heavy metals within and among feathers of birds of prey: effects of molt and external contamination
T. DAUWE, L. BERVOETS, R. PINXTEN, R. BLUST, M. EENS (Belgium)
Concentrations of many heavy metals in feathers, except Hg, did not reflect the molting sequence, suggesting external contamination.

437 Effects of geographical location and land use on atmospheric deposition of nitrogen in the State of Connecticut
Y. LUO, X. YANG, R.J. CARLEY, C. PERKINS (USA)
High ambient concentrations of tropospheric nitrogen and dry deposition flux were found in urban areas.

449 Genetic structure along a gaseous organic pollution gradient: a case study with *Poa annua* L.
X.-y. CHEN, N. LI, L. SHEN, Y.-Y. LI (China)
Genetic composition of Poa annua *populations showed clinal change along an organic pollution gradient.*

457 Soluble and insoluble fractions of heavy metals in wet and dry atmospheric depositions in Bologna, Italy
L. MORSELLI, P. OLIVIERI, B. BRUSORI, F. PASSARINI (Italy)
Monthly deposition samples allowed identification of periodic fluxes of deposited metals.

471 Evaluation of caged freshwater mussels as an alternative method for environmental effects monitoring (EEM) studies
P. MARTEL, T. KOVACS, R. VOSS, S. MEGRAW (Canada)
Results from caged mussel experiments agreed with benthic invertebrate surveys, but not with trends observed for fish.

485 Impact of ozone on the growth of birch (*Betula pendula*) saplings
P.E. KARLSSON, J. UDDLING, L. SKÄRBY, G. WALLIN, G. SELLDÉN (Sweden)
Significant correlation was found between reductions of growth and daylight AOT40 for Betula pendula *saplings.*

497 Xenoestrogens in the River Elbe and its tributaries
B. STACHEL, U. EHRHORN, O.-P. HEEMKEN, P. LEPOM, H. REINCKE, G. SAWAL, N. THEOBALD (Germany)
High concentrations of organic chemicals in the River Elbe may be detrimental to aquatic organisms.

509 Trophic transfer of persistent organochlorine contaminants (OCs) within an Arctic marine food web from the southern Beaufort–Chukchi Seas
P.F. HOEKSTRA (Canada), T.M. OHARA, A.T. FISK (USA), K. BORGÅ (Norway), K.R. SOLOMON, D.C.G. MUIR (Canada)
The trophic status and biomagnification of persistent OCs within the near-shore Beaufort–Chukchi Seas food web from Barrow, AK is discussed.

523 Integrated assessment of the impacts of agricultural drainwater in the Salinas River (California, USA)
B.S. ANDERSON, J.W. HUNT, B.M. PHILLIPS, P.A. NICELY, V. DE VLAMING, V. CONNOR, N. RICHARD, R.S. TJEERDEMA (USA)
Invertebrate mortality was correlated with levels of water and sediment contaminatioin in the Salinas River.